

## A Message from Dr. Suellen Reed

Dear Teachers and Administrators,

The *ISTEP+* assessment is one of the best tools available to us in our continued efforts to improve the education of Indiana's students. The reports which are distributed to teachers, principals, and corporation offices can be used to help identify students' strengths and weaknesses, and to measure their mastery of the Indiana essential skills. These results help the educational professionals determine how effectively their students are making progress toward meeting the high school graduation requirements.

The individual student reports provide information that helps parents understand their child's academic performance. The class, school, and corporation summary reports give teachers and administrators data that can help them evaluate their students' achievement and identify educational areas that may need emphasis. We thank you for your professional commitment to the improved education of our youth, and we encourage your continued support of the *ISTEP+* assessment.

Sincerely,



Suellen Reed  
Superintendent of Public Instruction

### INDIANA ACADEMIC STANDARDS (CRITERION-REFERENCED INFORMATION)

**Criterion-referenced Test:** A test that reports students' scores relative to a body of information thought to be important to learn (see Educational Proficiency Content Standards).

**Indiana Academic Standards:** The Indiana Academic Standards define two general levels of knowledge and skill relevant to the Educational Proficiency Content Standards. These levels were defined by the State Board of Education as follows: To promote student academic achievement, the State Board of Education has adopted challenging content standards. The student who scores above the Indiana Academic Standard in English/language arts or mathematics demonstrates mastery of these content standards. Students who do not score at or above the Indiana Academic Standard in all likelihood need remedial assistance to be successful at the current grade level.

**Educational Proficiency Content Standards:** A general statement established by the Indiana State Board of Education of what a student should know and be able to do at the grade levels tested by *ISTEP+*. These proficiencies are: reading comprehension, language mechanics/vocabulary, writing, mathematics basic skills, and mathematics applied skills.

**Indiana Essential Skills:** Specific skills within the larger category of Educational Proficiency Content Standards measured by *ISTEP+* criterion-referenced questions.

**Indiana Scale Score:** Student achievement levels relative to the Educational Proficiency Content Standards are reported by *ISTEP+* as scale scores which are compared to the Indiana Academic Standards for English/language arts and mathematics.

**Indiana Performance Index (IPI) score:** A measure of a student's mastery of the skill tested in a specific area as defined by the Indiana Essential Skills.

### NATIONAL SCORE COMPARISONS (NORM-REFERENCED INFORMATION)

**Norm-referenced Test:** A test that reports students' scores relative to those obtained by a national sample (norm group) of students (see National Percentile).

**National Percentile (NP):** The NP represents the percentage of students in the national norm group that scored below a given student's score. For example, a student whose NP score is 70 scored higher than 70 percent of the students in the norm group. The 50th NP represents the "national average" at the time the test was normed (i.e., half of the norm group scored below and half scored above an NP of 50).

**Grade Equivalent (GE):** This score represents the grade and month in school of students in the norm group whose test performance is equivalent to the test performance of a given student. For example, if a third-grade student obtains a grade equivalent of 4.8 on a mathematics test, it does not mean that the student has mastered all the mathematics that is taught in the school district during the first eight months of Grade 4. It means only that the student's performance on this test is theoretically equivalent to the typical performance of students in the norm group who have completed eight months of Grade 4.

**Normal Curve Equivalent (NCE):** The NCE was developed to allow mathematical manipulation of NP scores—especially for program evaluation and other research requiring the comparison of scores across groups or across time. NCEs can be thought of as NPs rescaled on an equal-interval scale (which allows them to be used in mathematical calculations such as deriving a mean score). NCEs should not be confused with National Percentile scores. NCEs are often converted to the NP scale for easier interpretation (see, for example, NP of MNCE).

**Anticipated Achievement Normal Curve Equivalent (AANCE):** A student's anticipated achievement score estimates the average score for students of similar academic aptitude. This lets you compare an individual student's level of achievement to that expected of similar students. Anticipated achievement scores are a function of a student's performance on the academic aptitude and achievement portions of *ISTEP+*.

**NP of MNCE:** This stands for the National Percentile of the mean NCE and is used to mark the arithmetic average of a group of NP scores. Since NP scores cannot technically be added, subtracted, multiplied, or divided, they are first converted to the equal-interval NCE scale, an average is calculated, and the average (mean) NCE is then converted back to an NP for interpretation. Think of the NP of the MNCE as the average National Percentile rank of a group.

**Cognitive Skills Index (CSI):** The CSI describes an individual's overall performance on the *ISTEP+* aptitude test. It compares the student's cognitive ability to that of students who are the same age, without regard to grade placement. The CSI is a normalized standard score with a mean of 100 and a standard deviation of 16.

**National Percentile by Age (NPA):** This score describes a student's performance on the *ISTEP+* aptitude test. It indicates the percentage of students in the norm group whose scores fall at or below an individual student's norm-referenced scale score for each test section. For aptitude, the norm group against which a student is compared is composed of students who are the same age in months, unlike achievement norms, which compare students within a grade.

### SUMMARY INFORMATION

**Mean:** Perhaps the most often used "average," the mean is the arithmetic average of a group of scores. It is calculated by adding the scores and dividing the sum by the number of scores.

**Median:** The median is an often used "average." It is defined as the score below which half of the cases fall. The median and the 50th percentile are the same (see National Percentile).

**Mean Scale Score:** The arithmetic average of the scale scores obtained by a group of students.

**Standard Deviation (SD):** A statistic that indicates the amount of variability in a group of scores. When scores are normally distributed (i.e., when they are part of a bell-shaped, "normal" curve), about two-thirds of the scores are within one SD above and below the average (mean) score and about 95% of the scores are within 2 SDs of the mean. In almost any shaped distribution, all scores will be within 5 Standard Deviations above or below the mean score.

